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ABSTRACT

This study was designed to explore the following three issues: (1) What leads an author to submit his manuscript to a particular journal? (2) What are the subject areas covered and what is the nature of the treatment (descriptive, analytical, theoretical, etc.) in articles published in these journals? (3) What are the main problems associated with the process of manuscript reviewing in these journals? The main sample was taken in 1967 and consisted of 163 authors who wrote 202 articles chosen from six meteorological journals, including two foreign journals. In 1968, there were 67 additional responses from authors writing in the same 6 journals. Approximately equal treatment is given to each of the above questions. Results are tabulated in nine tables, and interpretive comments are made. (PR)

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A SURVEY OF AUTHORS ON THE PUBLICATION PRACTICES IN METEOROLOGY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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At the request of the American Meteorological Society Special Committee on Scientific Communication, a survey of journal article authors was conducted by the Center for Research in Scientific Communication.[1] Six journals were selected for study. Four of these, Weatherwise (WW), Journal of the Atmospheric Sciences (JAS), Journal of Applied Meteorology (JAM), and Bulletin of the American Meteorological Society (BAMS), are published by the American Meteorological Society (AMS). Two others, Monthly Weather Review (MWR), and Quarterly Journal of the Royal Meteorological Society (QJRMS), were selected for comparison with these American Meteorological Society publications. The data, then, are presented relative to each journal and are also divided into two categories -- that applying to AMS and that to non-AMS journals.

The data reported here were collected in two stages. Initially the publication period selected for study was the year 1967. Each issue of each journal published during this year was examined and the titles and authors of all substantive articles were recorded. This resulted in a total of 387 articles. However, 49 of the authors produced more than one article in this collection: forty-one authors produced two articles; seven, three; and one, four. Accordingly, after duplicate authors were eliminated, the sample was selected from a total of 329 articles. Since some journals published more substantive articles than others during this period, an effort was made to balance the sample by random selection of

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[1]This study was initiated by the American Meteorological Society Special Committee on Scientific Communication (George P. Cressman, Glenn R. Hilst, George W. Platzman, Phillip D. Thompson, and David Atlas, Chairman) and conducted by the Johns Hopkins Center for Research in Scientific Communication. The rough draft of this report was revised by the Special Committee, whose suggestions have been incorporated into this final report. The work reported here was funded by the Office of Science Information Service of the National Science Foundation (Grant NSF-GN 514).

only a portion of the articles from those journals which published a disproportionately large amount of material in 1967. In the end 202 articles were selected and questionnaires were sent to the authors (to single authors and to first authors of multiple-authored articles). One hundred and sixty-three usable questionnaires were returned for a response rate of 79%.

The AMS Special Committee on Scientific Communication, after reviewing a preliminary report of the results of the initial stage of study, requested that additional authors of articles appearing in JAM and JAS be included in the survey. Accordingly, a second survey was conducted, which included a) authors of articles in the 1967 issues of JAM and JAS who had not been used in the first survey, and b) a sample of authors of articles in the 1968 issues of these two journals. Seventy-nine additional questionnaires were mailed and 67 usable ones were returned, for a response rate of 85%. Since the additional data collected in the second survey did not alter the results obtained in the initial survey, these additional data have been incorporated into this report, which is a slightly revised version of the original.

The questionnaire used in both the original and the subsequent surveys was mainly concerned with three problems of interest to the AMS Special Committee on Scientific Communication (see Appendix A):

1) What leads an author to submit his manuscript to a particular journal? Does his experience with the journal influence his decision to choose it as an outlet for publication of future papers?

2) What are the subject areas covered and what is the nature of treatment (descriptive, analytical, theoretical, etc.) in articles published in these journals? In the opinion of the respondents, do these

journals present a balanced coverage in these respects?

3) What are the main problems associated with the process of manuscript reviewing in these journals? Do authors receive any benefit from reviews? Is the reviewing process unsatisfactory or inappropriate, from the authors' point of view? How would authors like to see the review process altered?

RESULTS

Selection of Journals for Publication of Work

The reasons which led authors to submit their manuscripts to the journals in which they were published are shown in Table 1. When these data are viewed in their entirety, two reasons appear to be prominent: two-thirds of the authors selected a journal because it reached the audience which was most appropriate, relative to the content of the articles, and a third selected a journal because it was the best known of the meteorological journals which publish articles on subjects relevant to those discussed in their manuscripts. Thus, the prominent motive generally advanced by authors for submitting their manuscripts to specific journals was the desire to give their work maximum visibility -- in terms of the stamp of quality of a prestigious journal and in terms of the potential for reaching a large audience. However, when we compare authors of articles appearing in AMS journals (hereafter referred to as AMS authors) with authors of articles appearing in non-AMS journals (hereafter referred to as non-AMS authors), we find that the former group placed relatively more emphasis on this motive than did the latter. The main reason for selecting Monthly Weather Review, a non-AMS publication, for example, was the speed of publication following acceptance.

Table 1.

Reasons Leading Authors to Submit Their Manuscripts to the Journals in Which They Were Published

Reason[b]	Journal[a]							
	WW N=14	BAMS N=27	JAS N=59	JAM N=72	MWR N=34	QJRMS N=24	AMS Journals N=172	Non-AMS Journals N=58
Prompt review of submitted manuscripts	14%	11%	12%	17%	44%	38%	14%	41%
Prompt publication following acceptance	14	4	14	8	59	38	10	50
Good critical review of manuscripts		4	22	14	15	46	14	28
Best known journal in meteorology publishing articles on this subject	21	11	37	38	21	54	32	34
Authors not required by journal to share publication costs (e.g. page charges)		7			21	25	1	22
Paper invited by editor[c]	29	33			9		8	5
Most appropriate audience reached by journal	64	67	78	75	50	62	74	55
Article was follow-up of or directly related to article(s) previously published in journal		4			6	12	1	9
Recommended by colleague		4	2				1	
Routine service of journal (e.g., part of monthly series on subject)					12			7
Other (unspecified)		4	3	4	3	12	3	5

[a]The journals listed in this and other tables in this report are abbreviated as follows: AMS journals -- Weatherwise (WW), Bulletin of the American Meteorological Society (BAMS), Journal of the Atmospheric Sciences (JAS), Journal of Applied Meteorology (JAM); non-AMS journals -- Monthly Weather Review (MWR), and Quarterly Journal of the Royal Meteorological Society (QJRMS).

[b]Some authors gave more than one reason.

[c]There are probably more invited manuscripts than these data indicate, since this category resulted from responses written-in on the questionnaire by respondents.

Some other distinctions between AMS and non-AMS authors appear to have importance for scientific communication in meteorology and therefore seem worthy of mention here. Two-thirds of the non-AMS authors (as compared to less than a quarter of the AMS authors) reported at least one of the following reasons for selecting specific journals for publication of work: a) prompt review of manuscripts, b) speed of publication, or c) good critical reviews. Also of relevance to journal publication policy is the finding that over a fifth of the non-AMS authors had selected these particular journals because they do not require authors to share publication costs. Only two of the 172 AMS authors selected journals for this particular reason, however.

Apparently, the over-all experience which the authors in this study had with those journals in which they published their manuscripts was not an unhappy one. In answer to the question, "Based on your experience with this journal, would you choose it as an outlet for publication of future papers?", only 3 of the 230 respondents replied that they would not. One of these had had his work published in BAMS and two in JAS. Both JAS authors gave reasons which could be interpreted to mean that they received unsatisfactory processing of their manuscripts; both felt that there had been excessive delay in review action. The BAMS author simply felt that the BAMS should be "reserved for general or descriptive articles which would be of interest to the entire meteorological community," a type of article which he was not likely to produce in the future.

Of relevance to the tendency to select a journal most appropriate to the subject matter of the article, is the fact, shown in Tables 2A and 2B, that the various journals do emphasize certain subjects more than others. This is clear in the case of JAS versus JAM; they were intentionally

Table 2A

Subject Areas of Content of Articles

(AMS Journals)

Subject Area[a]	WW N=14		BAMS N=27		JAS N=59		JAM N=72		AMS Journals N=172	
	Emphasis Given Area in Article									
	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis
Climatology	64%	36%	19%	11%	10%	5%	11%	8%	16%	10%
Dynamic meteorology	14	7	7		39	15	14	1	22	6
Macrascale			4		15	5	1		6	2
Mesoscale	4	7	4		15	3	10	1	11	2
Numerical modeling			7	4	22	8	11	10	13	8
Space physics					12	3	1		5	1
Planetary atmosphere	7				5	5	1		3	1
Synoptic meteorology and general circulation	57	21	11	4	8	3	19	7	14	10
Mesometeorology	29	7	11	4	6		10	1	10	2
Satellite meteorology	7		19	11			8	3	7	3
Radiation	7		15		5	2	7	4	8	2
Turbulence and diffusion	14		7		15	7	19	7	16	5
Air pollution	7		11		3	2	7	4	6	2
Precipitation physics or weather modification	21	7	7		17	10	18	11	16	9

[a]Some authors reported that their articles were concerned with more than one subject area.

(Table continued on next page)

Table 2A -- Continued

Subject Areas of Content of Articles

(AMS Journals)

Subject Area[a]	Emphasis Given Area in Article									
	WW N=14		BAMS N=27		JAS N=59		JAM N=72		AMS Journals N=172	
	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis
Radio and radar meteorology	7%		4%		3%		7%	1%	5%	1%
Atmospheric electricity	7	7%			3				2	1
Forecasting	21		19	15%	3		8	1	9	3
Instruments	14	7	26	15	5		15	8	13	6
Upper atmosphere			11	11	2	2			2	2
Oceanography						3				1
Meteorological education, history, economics			15	15					2	2
Biometeorology			4	4			1		1	1

[a]Some authors reported that their articles were concerned with more than one subject area.

Table 2B

Subject Areas of Content of Articles

(Non-AMS Journals)

Subject Area[a]	Emphasis Given Area in Articles					
	MWR N=34		QJRMS N=24		Non-AMS Journals N=58	
	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis
Climatology	29%	15%	17%	12%	24%	14%
Dynamic meteorology	21	6	29	17	24	10
Macrascale	15	6	8	4	12	5
Mesoscale			17	12	7	5
Numerical modeling	18	12	4	4	12	9
Space physics						
Planetary atmosphere	9				5	
Synoptic meteorology and general circulation	29	6	8		21	3
Mesometeorology	9	3	4	4	7	3
Satellite meteorology	26	12			16	7
Radiation	18	9	17	12	17	10
Turbulance and diffusion	6		29	29	16	12
Air pollution	3	3	4	4	3	3
Precipitation physics or weather modification	9	3	4	4	7	3
Radio and radar meteorology	3	3			2	2

[a]Some authors reported that their articles were concerned with more than one subject area.

(Table continued on next page)

Table 2B -- Continued

Subject Areas of Content of Articles

(Non-AMS Journals)

Subject Area[a]	MWR N=54		QJRMS N=24		Non-AMS Journals N=58	
	Emphasis Given Area in Articles					
	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis	Some Concern	Chief Emphasis
Atmospheric electricity	9%	9%	4%	4%	7%	7%
Forecasting	12	3			7	2
Instruments	3				2	
Upper atmosphere	3	3			2	2
Oceanography	3	3	4	4	3	3
Meteorological education, history, economics						
Biometeorology						

[a]Some authors reported that their articles were concerned with more than one subject area.

designed to separate basic from applied articles. Accordingly, the four main subjects of articles in JAS (listed in order of decreasing frequency) are dynamic meteorology, numerical modeling, precipitation physics and weather modification, and turbulence and diffusion. On the other hand, the four major topics covered by JAM are turbulence and diffusion, and synoptics and general circulation, precipitation physics, and instruments.

Interestingly enough, the MWR seems to have become a reservoir for much of the material on satellite meteorology. It also concentrates more heavily on synoptics and general circulation than does JAM. This emphasis in MWR seems to reflect the special areas of concern of ESSA, specifically, and its employee-authors, who contribute heavily to MWR.

By way of contrast, neither the MWR nor QJRMS deals significantly with instruments. Nor is precipitation physics dealt with as heavily in these journals as in JAS or JAM. However, turbulence and diffusion and radiation appear to be topics of special interest to authors of QJRMS. This weighting perhaps reflects the interests of British scientists, and probably to some extent, the lack of funding in certain areas (i.e., precipitation physics and satellite meteorology).

Similarly, there is a noted tendency for foreign authors to publish work on precipitation physics and weather modification in JAS and JAM. Here these contributions appear along with those reflecting the substantial American effort in this field.

The vast majority of respondents were of the opinion that the journals in which their work was published either presented a well-balanced or an appropriately balanced coverage of the subject matter of the atmospheric sciences. Perhaps the most significant point brought up in this regard was

the opinion expressed by numerous authors, that it is neither feasible nor desirable that a journal maintain a balanced coverage in so broad an area as the atmospheric sciences, and, therefore, it is quite appropriate for various journals to specialize in certain aspects of the field. The question would rather seem to be whether or not there exists a collection of "quality" journals which as a whole cover the subject matter of a discipline. Table 3 presents comments provided by those authors who perceived a coverage imbalance in a particular journal.

Table 4 shows how the authors characterize the nature of the treatment of the main content of their articles. For three of the AMS journals, one type of treatment predominates: WW, descriptive; BAMS, descriptive; JAS, theoretical. Field experimental/statistical is the main treatment emphasis for articles in JAM, but relatively heavy emphasis is also given to the theoretical and descriptive. In spite of this pattern of emphasis, only one treatment category -- laboratory experimental -- is comparatively under-represented in the AMS journals. Of the six journals studied, QJRMS appears to have provided the best balance of treatments.

Many of the authors who were of the opinion that the journal about which they were questioned did provide a well-balanced coverage of theoretical, experimental, descriptive, and instrumental materials, also took the view that a journal should not necessarily be well balanced in these respects as long as there is an over-all balance of treatments maintained among the various journals collectively. The comments of those few authors who felt that treatment (as opposed to coverage) imbalances did exist in the journals are presented in Table 5.

Table 3.

Subject-Area Imbalances in Journals

Weather Wise

1) "Weather extremes are too heavily emphasized and physics of the atmosphere, too little."

Bulletin of the American Meteorological Society

1) "There are some unfilled gaps between BAMS and JAM regarding matters of direct interest to field forecasters."

Journal of the Atmospheric Sciences

1) "Too little emphasis given to aeronomy."
2) "Too much meteorology, not enough physics/chemistry of atmosphere."
3) "Too little oceanography."
4) "Too little atomic and molecular processes in the atmosphere."
5) "Too little rate processes in clouds."

Journal of Applied Meteorology

1) "Every field is too little emphasized because the really classical papers get lost in the shuffle."
2) "Not quite enough emphasis on communication meteorology. I think this is not necessarily your fault because of a tendency with us to submit work primarily to electrical-engineering oriented publications."
3) "Too much 'solutions to undiscovered problems.'"
4) "Too many unimportant experiments."

Monthly Weather Review

1) "N.W.P., too heavily emphasized; cloud physics, too little."
2) "Climatology -- too heavily emphasized."
3) "Too weighted in favor of synoptic meteorology and climatology."
4) "By no means well balanced in its coverage of numerical weather-prediction studies."

Quarterly Journal of the Royal Meteorological Society

1) "It is not well balanced relative to atmospheric sciences -- but it is a meteorological journal."
2) "Too much cloud physics; too little climatology."
3) "Perhaps micrometeorology is emphasized a little too much."

Table 4.

Nature of Treatment of Main Content of Articles

Nature of Treatment[a]	WW N=14	BAMS N=27	JAS N=59	JAM N=72	MWR N=34	QJRMS N=24	AMS Journals N=172	Non-AMS Journals N=58
Theoretical	7%	7%	78%	40%	32%	25%	40%	29%
Experimental (laboratory)		7	8	10	6	25	8	14
Experimental/statistical (field)	14	19	25	53	44	46	35	45
Descriptive	100	81	25	40	44	29	47	38
Review		22				4	3	2

[a]Some authors reported more than one type of treatment in their articles.

Table 5.

Treatment Imbalances in Journals

Weather Wise

(None)

Bulletin of the American Meteorological Society

1) "Too few survey type articles."

2) "Too little operational practices. There is too much of the practice of specific government agencies publishing papers for political purposes and/or publicity."

3) "It could use more articles on peripheral aspects or applications of meteorology to other disciplines."

4) "Too heavily instrumental; too little theoretical."

5) "Too few reviews of theoretical subjects."

Journal of the Atmospheric Sciences

1) "Too heavily theoretical; too little quantitative descriptive and instrumental."

2) "There is need for more experimental/observational material."

3) "Could use reviews from other fields."

4) "Too much descriptive material."

5) "Too little interpretation and analysis of observational data."

Journal of Applied Meteorology

1) "Too few numerical modeling papers -- they are often applied and should appear in JAM."

2) "Sometimes too much emphasis on theoretical papers -- they belong in JAS."

3&4) "Theoretical papers appear in JAM that should be in JAS." (2 respondents).

5) "Too much theoretical."

6) "Too much theoretical; too little synoptical."

7) "Too little review."

Monthly Weather Review

1) "I am not sure this particular publication should have instrumental material."

2) "Too heavily theoretical; too little instrumentation."

3) "Too much descriptive material."

4) "Too much theoretical work; too little experimental and instrumental material."

5) "Too much theoretical work."

(Table continued on next page)

Table 5 -- Continued
Treatment Imbalances in Journals

Quarterly Journal of the Royal Meteorological Society
1) "Too heavily theoretical."
2) "Too heavily theoretical; not enough experimental, descriptive."
3) "Too much of a pot-boiler in general."

The Process of Reviewing Manuscripts

As may be seen in Table 6, not all authors were satisfied with the reviews their manuscripts received (one in six were not) and AMS authors were relatively less satisfied than non-AMS authors. Although there does not appear in these data to be any sense of wide-spread discontent with the reviewing process as it operates in connection with those articles which are published in AMS journals,[2] it does appear that in comparison to MWR and QJRMS, neither JAM nor JAS is quite up to par in satisfaction rate and that JAS is significantly more deficient in this respect than JAM. Certainly something is wrong with dissatisfaction rates as large as 27% and serious consideration to reducing this rate would be appropriate.

In the case of JAS, the deficiencies are clearly focused in two problem areas: 1) excessive delay, and 2) superficiality of reviews. In the case of JAM, superficiality of reviews is clearly the central problem, and while an effort to reduce such superficiality might increase complaints about excessively critical (and overly demanding) reviews,

[2] It should be noted that most articles published in WW and some in BAMS are invited by the editors and in such cases the normal reviewing process is not usually followed.

Table 6.

Authors' Reactions to Reviews Given Their Manuscripts

Reactions	WW N=14	BAMS N=27	JAS N=59	JAM N=72	MWR N=34	QJRMS N=24	AMS Journals N=172	Non-AMS Journals N=58
Found review of manuscript satisfactory and appropriate	100%	93%	73%	81%	91%	92%	81%	91%
Found review of manuscript unsatisfactory or inappropriate		7	27	19	9	8	19	9
Reasons why reviews were unsatisfactory or inappropriate								
Excessive delay in editorial action			20	4			9	
Too superficial		7	8	10	6		8	3
Too critical scientifically						4		2
Suggested revisions too demanding or inappropriate			2	4		4	3	2
Reviewer(s) inappropriate for content of article		4		4			3	
No feedback given			2	1			2	
Manuscript not reviewed[a]		19					3	
No reason given					3			2

[a]Other manuscripts published in WW and BAMS may not have been reviewed, since this category resulted from responses written-in on the questionnaires by a few respondents.

it does seem clear that authors would prefer critical reviews to superficial ones.

This point is in part supported by the low "review benefit" rate of JAS authors, relative to the rates of authors associated with the three other journals which provided scientific reviews (Table 7). It seems clear (in spite of the fact that some papers are well enough written and developed not to require significant comments) that a benefit rate of about 70 to 80% could be attained, and indeed such a benefit rate is the norm for all journals included in the study, except JAS.

Since a large proportion of the authors in this study were not dissatisfied with the reviews given their manuscripts, the question arises as to what benefit, if any, they derived from those reviews. The data presented in Table 7 reflect the authors' evaluation of benefits received from the reviewing process. Of course, if an author received no feedback from the reviewer, he could not have benefitted and this appears to have been the case in many instances, particularly relative to WW and BAMS. It is a problem to be touched upon later in this paper, because many authors did feel that feedback should be given, even for invited papers.

As was noted earlier, AMS authors as a group did not receive as much benefit from reviews as non-AMS authors. This appears, to a large extent, to be due simply to the fact that a substantial portion of articles published in WW and BAMS did not go through the type of reviewing process required by other journals. It seems proper therefore to exclude these two journals from a discussion of the benefits derived from reviews, since our main concern is the effects of the traditional reviewing given manuscripts submitted to scientific journals. Most authors of articles in the remaining

Table 7.

Benefits Received by Authors from Reviews

Benefits	WW N=14	BAMS N=27	JAS N=59	JAM N=72	MWR N=34	QJRMS N=24	AMS Journals N=172	Non-AMS Journals N=58
Author did not benefit from review(s)	79%[b]	78%[b]	44%	33%	35%	21%	47%	29%
Author benefitted from review(s)	21	22	56	67	65	79	53	71
Nature of benefit(s) received from review(s)[a]								
Gained new insight into problem			3	5	12	4	3	9
Clarified or improved manuscript	21	22	49	53	50	71	44	59
Confirmed or strengthened own approach to problem		4	7	14	9	4	8	7
Got new ideas for further work				3	6	4	2	5
Corrected error in treatment				3			1	
New literature reference			2				1	

[a]Some authors reported more than one type of benefit received from review(s).

[b]These percentages cannot be interpreted on face value since a substantial portion of articles in WW and BAMS are invited; these percentages probably reflect the lack of any rigorous review in the usual sense.

four journals received some beneficial feedback. The journal proving least effective in this respect was, as we know, JAS. Almost half (44%) of its authors reported no benefit from its reviews. The QJRMS provided the best feedback to its authors, with over three-fourths of them reporting some benefit.

The major type of benefit received from reviews was clarification or improvement of the manuscript. On the surface this type of benefit might appear to be the expected and superficial result of manuscript reviewing. But on closer examination of the data it appears clear that this kind of benefit extended beyond the specific manuscript, to affect the author's plans and thought. Along these lines, another benefit emerges and it is one which appears to result with relative frequency from these reviews (reported by 11% of the JAS and JAM authors). This is the confirming or strengthening of the author's approach to a problem and it is a result which affects both his current and his future work.

Next authors were asked if they would like to see the review process altered, in light of the problems and/or benefits they may have encountered with the reviews of their manuscripts. The majority (85%) reported that they saw no reason for a change in the existing process. The only author group to deviate from this highly favorable attitude was the JAS authors, of whom almost one-third wanted to see some change effected. Table 8 presents a categorization of the few suggested changes. With the exception of the fact that 15% of the JAS authors did wish to see the reviewing process accelerated, no type of suggested change predominates.

The general tone of these comments, however, does indicate a desire to revitalize the standing reviewing procedure. This was particularly evident

Table 8.

Authors' Suggestions for Changes in the Reviewing Process

Type of Suggested Change	WW N=14[a]	BAMS N=27	JAS N=59	JAM N=72	MWR N=34	QJRMS N=24	AMS Journals N=172	Non-AMS Journals N=58
Speed up reviews			15%	1%			5%	
Withhold names and institutions of authors from reviewers		7%		1	3%		2	2%
Provide for more critical reviews/ increase rejection rate		4	7	3	3		4	2
Revitalize the corps of reviewers			2	1	3	4%	1	3
Make known the names of reviewers		7	2	4	3	8	3	5
Select more qualified reviewers relative to subject areas			2	6			3	
Establish better feedback from editors/reviewers to authors		4	3			4	2	2
Improve office management and improve processing of manuscripts		4	3				2	
Select editors more wisely			3				1	
Eliminate reviews (publish all submitted manuscripts)			2				1	

[a]No changes were suggested by WW authors.

with regard to selection of reviewers. There was a need expressed for younger reviewers, for more specialized reviewers, and for an end to the traditional anonymity of reviewers. This last issue was covered directly in the survey by a specific question: authors were asked their opinion on requiring reviewers to identify themselves.

Thirty-five percent of the authors included in this study definitely felt that the names of reviewers should be made known to the authors and an additional 4% felt that some mechanism should be established other than the complete and automatic anonymity afforded reviewers under current conditions. For example, reviewers' names could be made known at the editor's discretion or after consultation with the reviewer; lists could be published of all reviewers and their areas of specialization; means could be established for permitting anonymous communication between author and reviewer. Table 9 summarizes the reasons given by authors for wishing to know the names of reviewers of their articles.

Many of the respondents expressed the belief that often reviewers are not fully qualified in specific areas in which they nevertheless do reviews. If the author could be informed of the reviewer's identity, he could appraise the reviewer's expertise and could decide just how qualified and responsible the reviewer might be. A typical comment made by an author holding this point of view was: "A reviewer can comment only to the extent of his background, experience, knowledge -- the person is important. If background of reviewers were known, replies by authors might be more meaningful in many cases."

Also there was a strong feeling among the respondents that reviews were often irresponsible and substandard. Many respondents felt that not

Table 9.

Reasons Given for Belief that Reviewers' Names Should Be Made Known to Authors[a]

Reasons	AMS Authors N=172	Non-AMS Authors N=58	All Authors N=230
To enable author to make better evaluation of review, based on known capabilities of reviewer	8%	7%	7%
To make reviews more responsible and to produce higher standards of reviewing	6	7	7
To permit direct discussion between author and reviewer so that obscurities and misinterpretations can be resolved	9	5	8
To allow acknowledgement of reviewer's contribution	2	2	2
To control personal prejudice on part of reviewers	3	3	4

[a]The percentages of authors of articles in each journal who wanted anonymity of reviewers eliminated were as follows: WW, 29%; BAMS, 22%; JAS, 34%; JAM, 28%; MWR, 41%; QJRMS, 17%.

only should the reviewer be made known to the author, but that the reviewer's name should be printed along with the author's when manuscripts are published. As one author put it, "I feel that it would not be a bad policy for reviewers who wish to recommend rejection to do so in a signed letter, giving rational reasons. Furthermore, I think it might be worthwhile for the names of reviewers who recommend publication to be printed at the end of the article. This would put a greater pressure on reviewers to be responsible and it would force editors to be more careful in choosing reviewers."

Another author commented, "If reviewers' names were published with an article it would make for more critical reviews. Reviewers would weigh their comments more carefully if their reputations could be affected."

A third comment was, "... give credit for good reviews and put proper blame on reviewers who are careless, too lenient, or needlessly critical."

An additional criticism of reviewer anonymity and one that occurred often was that this anonymity does not permit direct and potentially fruitful interaction between author and reviewer. One respondent wrote,"Often reviewers misinterpret something in the author's manuscript and there is need for authors to contact reviewers for clarification of what are more often than not hazy reviews. Direct contact over the phone can quickly clear up unnecessary misunderstanding and lead to fruitful communication on the subject."

A few authors felt that reviewers should not be anonymous since in many instances they make valuable contributions to the manuscript and should, therefore, be acknowledged by the author and/or the editors.

The final category of reasons given for abandoning reviewer anonymity

involved the belief that such anonymity allowed reviewers to give in to their personal prejudices and to allow such prejudices to color their opinions of an article. This was specifically mentioned by only four authors. However, the feeling that reviewers were perhaps prejudiced by such factors as the author's institution, reputation, previous errors, etc., was implicit in the remarks of many respondents. These respondents, as a group, felt that either anonymity should protect both reviewer and author or that it should be afforded to neither of them.

SURVEY CONDUCTED BY THE AMERICAN METEOROLOGICAL SOCIETY SPECIAL COMMITTEE ON SCIENTIFIC COMMUNICATIONS

Below appears the title of your article which was published in

Title:

1(a) Check each of the following subject areas with which the content of your article deals and circle the one with which it is chiefly concerned.

____ Climatology
____ Dynamic meteorology
____ macrascale ____ mesoscale
____ Numerical modeling
____ Space physics
____ Planetary atmospheres
____ Synoptic meteorology
____ Mesometeorology
____ Satellite meteorology
____ Radiation
____ Turbulence and diffusion
____ Air pollution
____ Precipitation physics or weather modification
____ Radar meteorology
____ Atmospheric electricity
____ Forecasting
____ Instruments
____ Other. (please specify) _____

(b) How would you characterize the nature of the treatment of the main content of your article? (Check more than one if appropriate.)

____ Theoretical
____ Experimental (laboratory)
____ Experimental (field)
____ Descriptive
____ Other. (please specify) _____

2. Which of the following led you to submit your manuscript for publication in this particular journal?

____ prompt review of submitted manuscripts
____ speed of publication following acceptance
____ manuscripts receive good critical reviews
____ most appropriate audience reached by journal
____ best known journal in meteorology that publishes articles on this subject
____ lenient acceptance (low rejection) policy of journal
____ journal does not require authors to share publication costs (e.g., page charges)
____ other. (please describe) _____

(please see other side)

3(a) Did you find the review of your manuscript by this journal in any way unsatisfactory or inappropriate? Yes ____ No ____

If YES, in what way?

____ excessive delay in review action

____ too superficial

____ too critical scientifically

____ too critical about style, form, etc.

____ suggested revisions considered too demanding or inappropriate

____ other. (please specify) _____

(b) Did you benefit from the reviews? Yes ____ No ____

If YES, how?

____ gained new insight into problem

____ clarified or improved manuscript significantly

____ confirmed and strengthened own approach to problem

____ got new ideas for further work

____ other (specify) _____

(c) Considering the problems and/or benefits you may have experienced from the review of your manuscript, would you like to see the review procedures altered?

Yes ____ No ____

If YES, please briefly describe how. _____

_____

4. Do you think the names of reviewers should be made known to authors?

Yes ____ No ____

If YES, for what reason? _____

_____

5 Based on your experience with this journal, would you choose it as an outlet for publication of future papers? Yes ____ No ____

If NO, why? _____

6. Do you feel that this journal is well balanced scientifically in its coverage of the subject matter of the atmospheric sciences? Yes ____ No ____

If NO, what fields do you feel are emphasized too heavily? _____;

too little ? _____.

7. Is the journal well balanced in its coverage of theoretical, experimental descriptive, and instrumental material? Yes ____ No ____

If NO, which type of paper is emphasized too heavily? _____;

too little? _____.